



Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season¹

Week 9: March 1 – March 7, 2015

All data are preliminary and may change as more reports are received.

Summary:

- The estimated influenza activity in Missouri is Regional.²
- A season-to-date total of 45,742 laboratory-positive³ influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 74% of reported cases during Week 9. Each of the two laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 9, were influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 13 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, six A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 71.9% of viruses from U.S. laboratories from October 1, 2014 – February 28, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.3% and 1.9% through ILINet and ESSENCE respectively⁴.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (23 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 97 deaths during Week 8, resulting in a season-to-date total of 1,988 P&I associated deaths in Missouri⁵.
- No outbreaks of influenza or ILI were reported during Week 9 in Missouri. No ILI-associated school closures were reported during Week 9.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

¹The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

²Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

³Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

⁴Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

⁵The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

Surveillance Data:

Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=f3f230614565499e93be02096e46daf3>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 9
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

Data Tables and Graphs

Table 1. Number of Laboratory-positive[†] Influenza Cases by Influenza Type, Missouri, CDC Week 7 - 9 (February 15 – March 7, 2015)

| Influenza Type | Week 7 | Week 8 | Week 9 | 2014-2015* Season-to-Date |
|-------------------------------------|------------|------------|------------|------------------------------|
| Influenza A | 380 | 274 | 115 | 40,641 |
| Influenza B | 372 | 497 | 336 | 3,905 |
| Influenza Unknown Or Untyped | 32 | 21 | 6 | 1,196 |
| Total | 784 | 792 | 457 | 45,742 |

[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

Table 2. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 9 (March 1 – March 7, 2015, 2015)

| Age Group | Week 9 Cases | Week 9 Rate [‡] | 2014-2015* Season-to-Date | 2014-2015* Season-to-Date Rate [‡] |
|--------------|-----------------|-----------------------------|------------------------------|--|
| 00-04 | 87 | 23 | 8,580 | 2,262 |
| 05-14 | 92 | 12 | 13,147 | 1,673 |
| 15-64 | 223 | 6 | 17,329 | 436 |
| 65+ | 55 | 6 | 6,686 | 757 |
| Total | 457 | 8 | 45,742 | 760 |

[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡] Incidence Rate per 100,000 population

Table 3. Number of Laboratory-positive[†] Influenza Cases and Case Rates by Region, Missouri, CDC Week 9 (March 1 – March 7, 2015)

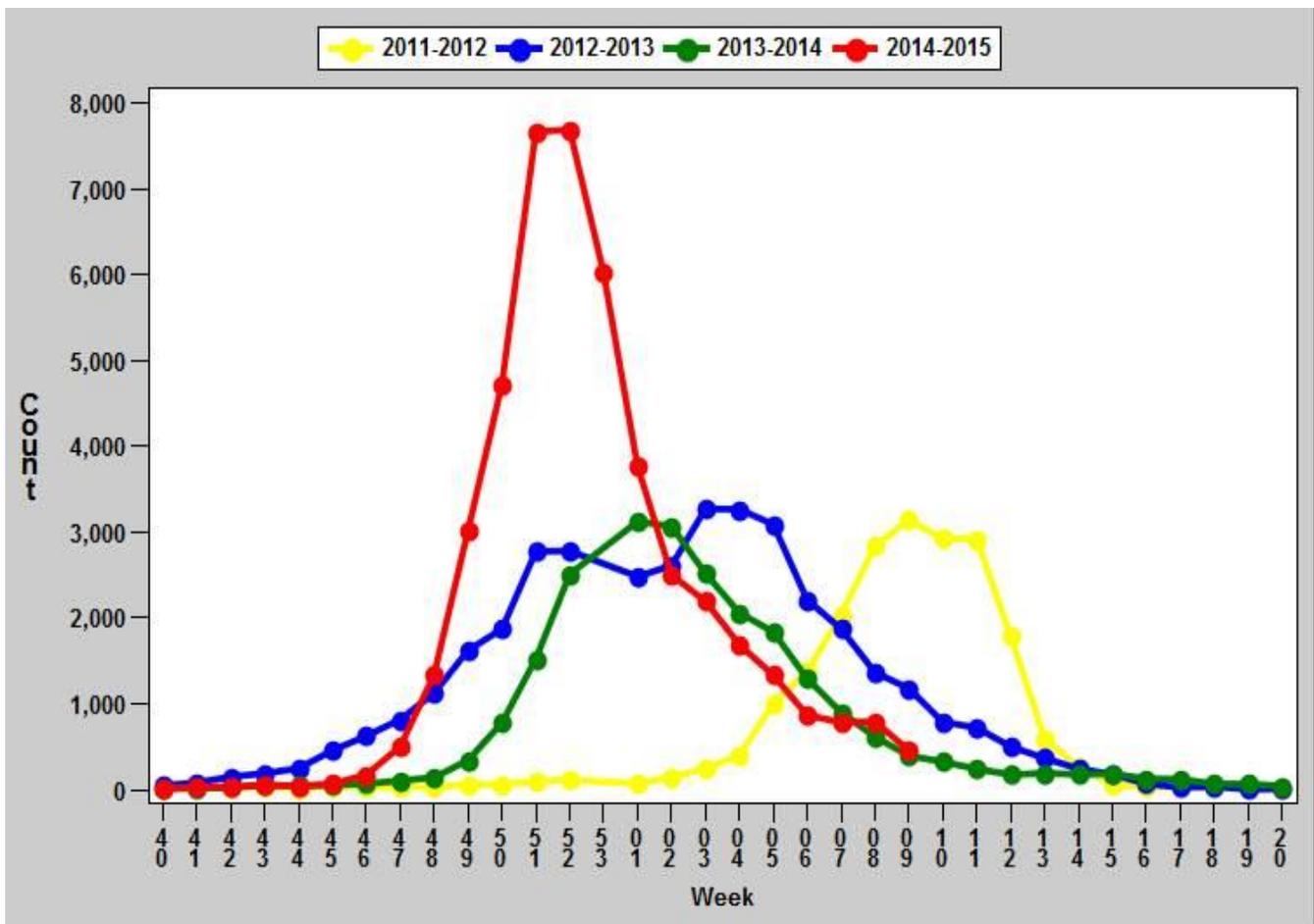
| District | Week 9 Cases | Week 9 Rate [‡] | 2014-2015* Season-to-Date | 2014-2015* Season-to-Date Rate [‡] |
|--------------|--------------|--------------------------|---------------------------|---|
| CE | 79 | 12 | 6,283 | 937 |
| EA | 177 | 8 | 12,457 | 556 |
| NW | 71 | 4 | 13,186 | 835 |
| SE | 32 | 7 | 5,372 | 1,131 |
| SW | 98 | 9 | 8,444 | 799 |
| Total | 457 | 8 | 45,742 | 760 |

[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

[‡] Incidence Rate per 100,000 population

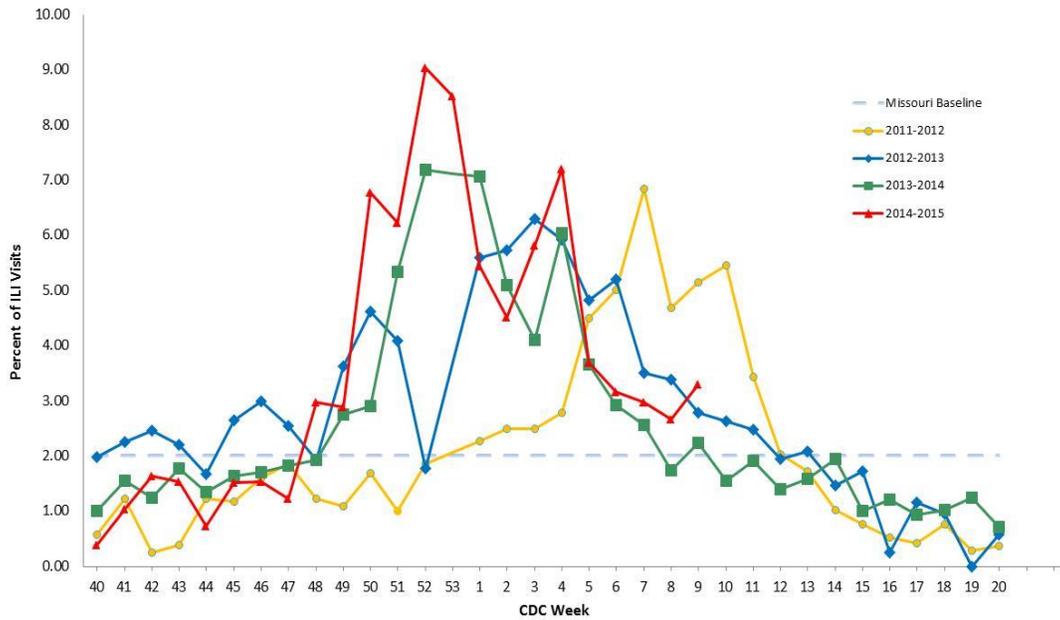
Graph 1. Number of Laboratory-positive[†] Influenza Cases by CDC Week, Missouri, 2011-2015*



[†] Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

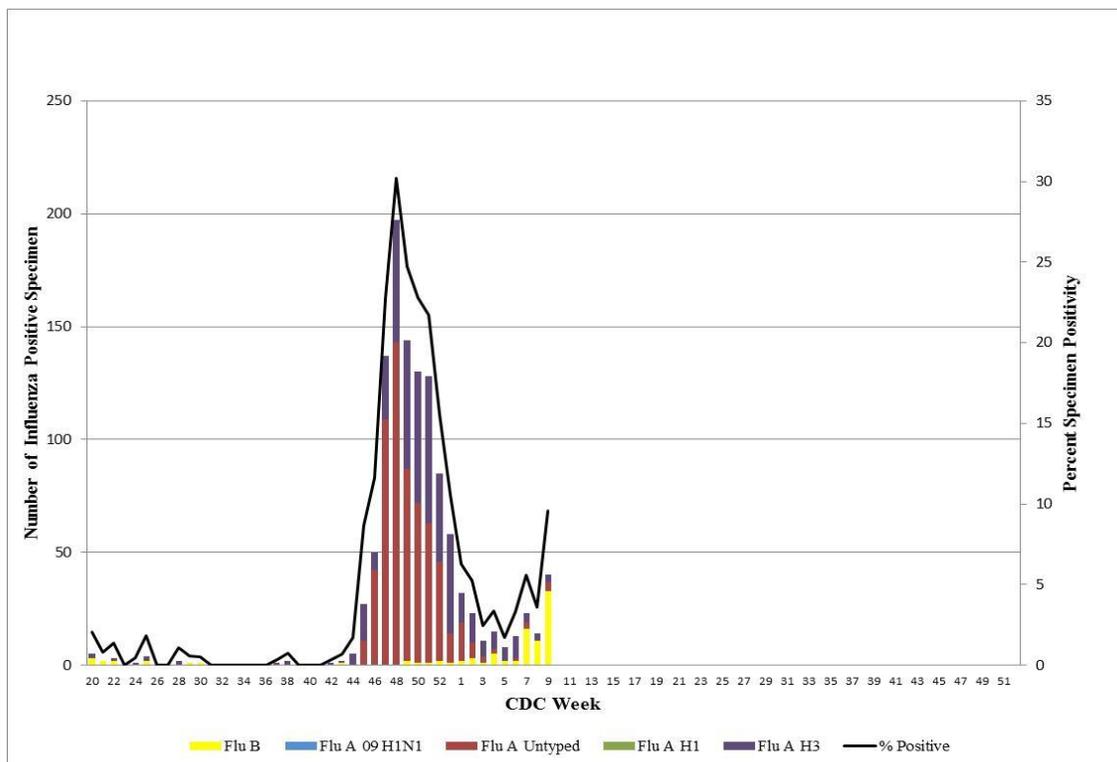
*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9). Data Source: Missouri Health Information Surveillance System (WebSurv).

Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015*



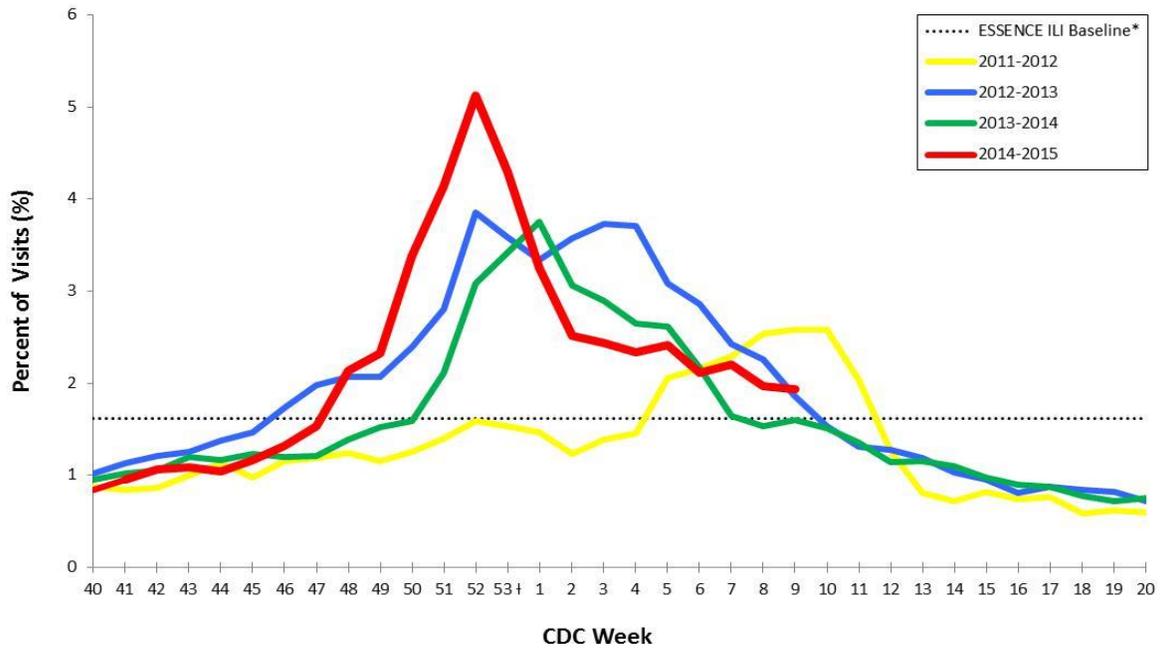
*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

Graph 3. St. Louis Children’s Hospital Season-to-Date PCR (+) and Rapid Influenza Tests



*Data Source: St. Louis Children’s Hospitals
 *This data is based on testing in all age groups in St Louis metro and SE Missouri
 *Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015[†]



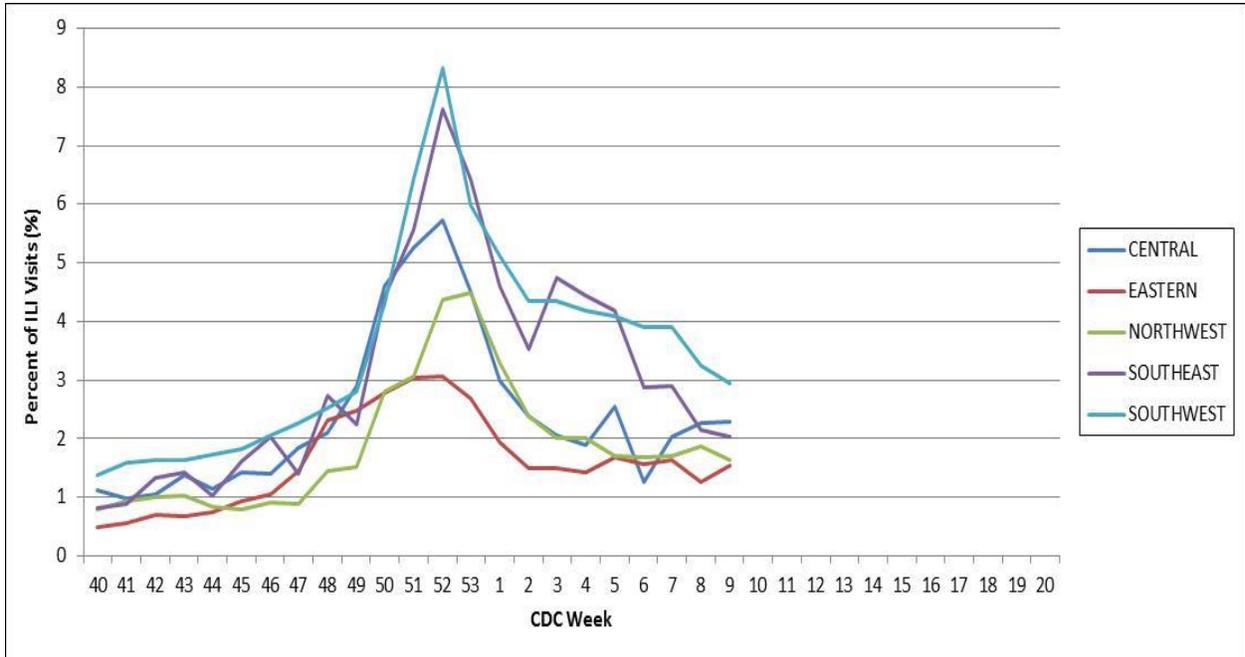
[†]Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).
 *ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 9 (March 1 – March 7, 2015)

| District | Age 0-4 | Age 5-17 | Age 18-44 | Age 45-64 | Age 65+ | Total Percentage |
|-----------|---------|----------|-----------|-----------|---------|------------------|
| Northwest | 2.6% | 3.8% | 1.4% | 1.1% | 0.6% | 1.6% |
| Central | 7.1% | 3.4% | 2.4% | 0.6% | 0.5% | 2.3% |
| Eastern | 2.5% | 3.2% | 1.7% | 0.9% | 0.5% | 1.6% |
| Southeast | 8.5% | 4.5% | 1.1% | 1.6% | 0.3% | 2.0% |
| Southwest | 9.6% | 6.2% | 2.1% | 1.7% | 0.5% | 2.9% |
| Statewide | 4.6% | 4.0% | 1.7% | 1.1% | 0.5% | 1.9% |

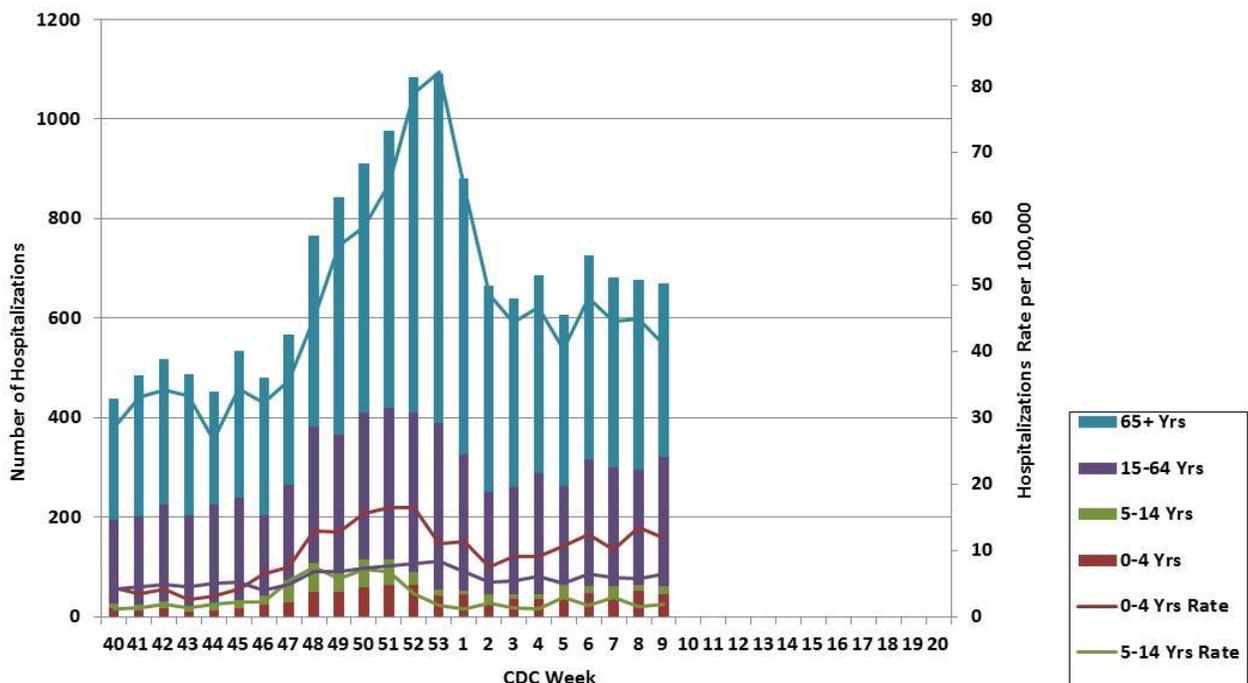
[†]Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015*



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).
 *2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015*



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).
 *2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

Additional Influenza Data Sources:

St Louis Children's Hospital Laboratory: <http://slchlabbtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:
http://www.who.int/influenza/surveillance_monitoring/en/